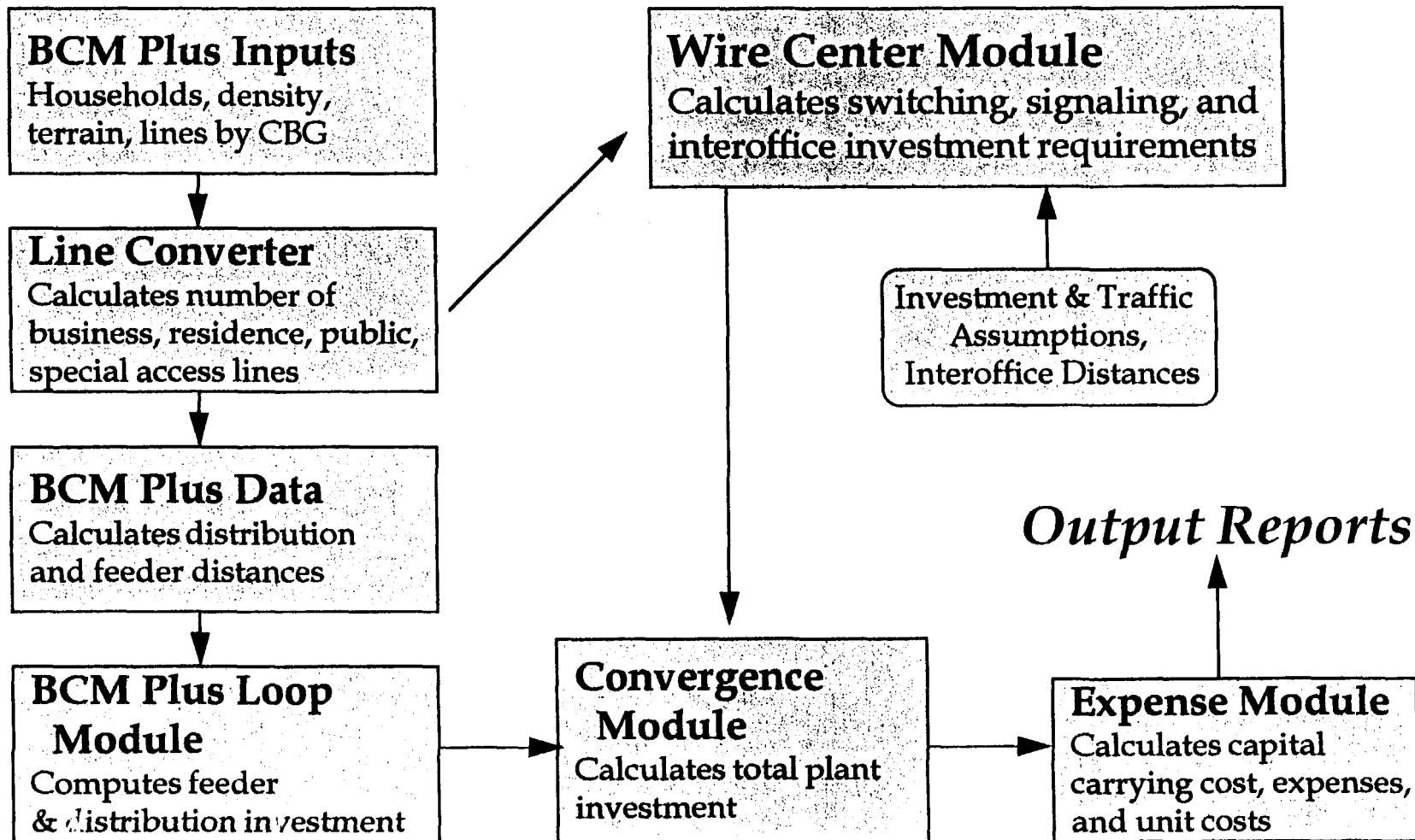


Hatfield Model Flowchart



Hatfield Model Inputs

- U.S. Census Bureau demographic data
- Dun and Bradstreet employment data
- Bellcore LERG data
- ARMIS and other FCC data
 - Lines / DEMs / call attempts, etc.
 - Expense ratios
- Other publicly available data
- Over 400 user-adjustable inputs specific to:
 - Study areas / density zones / plant classes

Running the Hatfield Model

- Basic model is written in Microsoft Excel
- All data are included with the model
- All data and calculations are visible and auditable
- No user proprietary agreements are required
- An alternative Visual Basic/ Access database implementation of the model is now available
 - Runs most states much quicker than Excel version
 - Can run on a typical Desktop PC

Hatfield Model Outputs

- Unbundled Network Element volumes, unit costs and total costs by density zone
 - Details of cost components, e.g., return, depreciation, taxes, expenses, overheads
 - Particular to the study area examined
- Universal Service costs for local loops, usage, and retail expense by density zone
- Other outputs, e.g.,
 - Transport and termination costs
 - Access costs

Comparison with Other Models

Hatfield v.2.2.2

- Combination of copper and integrated DLC on fiber loop plant
- Digital end office and tandem switching
- Fiber interoffice transport
- SS7 signaling
- All lines and usage demand modeled

BCM 2

- Combination of copper and nonintegrated DLC on fiber loop plant
- Digital end office switching, no tandems
- No interoffice transport modeled
- No signaling modeled
- Partial lines, no usage demand modeled

Comparison with Other Models

Hatfield v.2.2.2

- Loop, switching, transport, signaling investments built up by thirteen plant categories
- Explicit calculation of monthly cost of depreciation, return, taxes, expenses by plant category by density zone by study area
- All items costed

BCM 2

- Loop and switching investment built up by three plant categories
- Flat nationwide ARMIS embedded costs and factors applied to calculate monthly cost
- Monthly cost calculated only for local service, no toll, access or unbundled elements

Summary

- The Hatfield Model calculates accurately the efficient forward-looking cost of both Universal Service and Unbundled Network Elements
- The Hatfield Model permits flexible analyses using data and input values that are specific to the state/geography studied, e.g.,
 - Rate of return
 - Depreciation
- Output information is granular and exhaustive